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AS22759/12

FEDERAL SUPPLY CLASS
6145

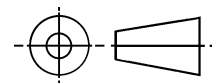
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THIRD ANGLE PROJECTION



ISSUED 2000-09

PREPARED BY SAE SUBCOMMITTEE AE-8D

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AEROSPACE STANDARD

WIRE, ELECTRICAL, FLUOROPOLYMER-INSULATED,
EXTRUDED TFE, NICKEL-COATED
COPPER CONDUCTOR, 600 VOLT

AS22759/12
SHEET 1 OF 4

THE COMPLETE REQUIREMENTS FOR PROCURING THE WIRE DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE ISSUE IN EFFECT OF SPECIFICATION MIL-W-22759.

AS22759/12

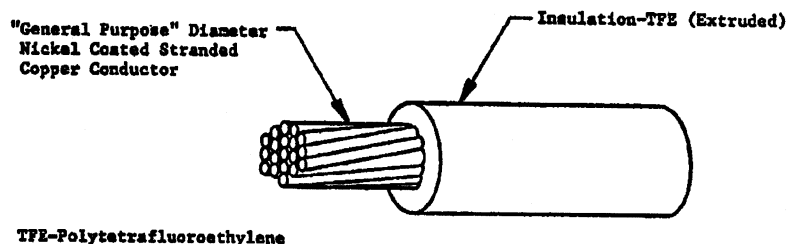


TABLE I. CONSTRUCTION DETAILS.

Part No. <u>1/</u>	Wire size	Stranding (Number of strands X AWG gauge of strands)	Diameter of stranded conductor (inches)		Finished wire		
			(min)	(max)	Resistance at 20°C (68°F) (ohms/1000 ft) (max)	Diameter (inches)	Weight (lbs/1000 ft) (max)
M22759/12-28-*	28	7 X 36	.014	.016	67.9	.033 ±.002	1.36
M22759/12-26-*	26	19 X 38	.018	.021	42.2	.038 ±.002	1.90
M22759/12-24-*	24	19 X 36	.023	.026	25.9	.043 ±.002	2.58
M22759/12-22-*	22	19 X 34	.029	.033	16.0	.049 ±.002	3.72
M22759/12-20-*	20	19 X 32	.037	.041	9.77	.058 ±.002	5.43
M22759/12-18-*	18	19 X 30	.046	.051	6.10	.068 ±.002	8.14
M22759/12-16-*	16	19 X 29	.052	.058	4.76	.075 ±.002	10.0
M22759/12-14-*	14	19 X 27	.065	.073	3.00	.090 ±.002	15.6
M22759/12-12-*	12	19 X 25	.082	.092	1.89	.111 ±.003	24.4
M22759/12-10-*	10	37 X 26	.106	.114	1.24	.139 ±.004	39.0
M22759/12-8-*	8	133 X 29	.158	.173	.694	.204 ±.004	67.0

1/ PART NO.: The asterisks in the part number column, Tables I through III, shall be replaced by color code designators in accordance with MIL-STD-681. Examples: Size 20, white - M22759/12-20-9; white with orange stripes - M22759/12-20-93.

TABLE II. PERFORMANCE DETAILS.

Part No.	Abrasion resistance (Procedure II)				Bend testing			
	Resistance (inches of tape) (min) (initial condition)	Weight support bracket	Weight (lbs)	Tension load (lbs)	Mandrel diameter (inches) (+3%)		Test load (lbs) (+3%)	
					Life cycle (oven & bend tests) <u>1/</u>	Cold bend test	Life cycle (oven & bend tests) <u>1/</u>	Cold bend test
M22759/12-28-*	12	A	.50	1.0	.125	.250	.50	
M22759/12-26-*	18	A	.50	1.0	.125	.250	.50	
M22759/12-24-*	18	A	.50	1.0	.125	.250	.50	
M22759/12-22-*	24	A	.50	1.0	.250	.375	.75	
M22759/12-20-*	24	A	.50	1.0	.250	.375	.75	
M22759/12-18-*	20	B	.75	1.0	.250	.375	1.00	
M22759/12-16-*	20	B	.75	2.0	.375	.500	1.00	
M22759/12-14-*	15	B	1.00	2.0	.500	.750	2.00	
M22759/12-12-*	15	B	1.00	2.0	.500	.750	2.00	
M22759/12-10-*	15	B	1.00	2.0	.750	1.00	3.00	
M22759/12-8-*	15	B	1.00	2.0	.750	1.00	3.00	

1/ Also for bend tests after immersion.

ADDITIONAL REQUIREMENTS

TEMPERATURE RATING: 260°C (500°F) max conductor temperature

VOLTAGE RATING: 600 volts (rms) at sea level

SPARK TEST OF PRIMARY INSULATION: Not required

IMPULSE DIELECTRIC TEST: 100% test; 8.0 kilovolts (peak) for sizes 18 and smaller, 6.5 kilovolts (peak) for sizes 16 and larger

INSULATION RESISTANCE: 50,000 megohms for 1000 ft (min)

WRAP TEST:

"Wrap back" test required, no cracking

Oven temperature; 313 ±2°C (595.4 ±3.6°F)

BLOCKING: 260 ±2°C (500 ±3.6°F)

SHRINKAGE: 0.03 inch max at 290 ±2°C (554 ±3.6°F)

WICKING: No requirement

LOW TEMPERATURE (COLD BEND):

Bend temperature: -65 ±2°C (-85 ±3.6°F)

Dielectric test, 3000 volts (rms), 60 Hz

THERMAL SHOCK:

Oven temperature, 260 ±2°C (500 ±3.6°F)

Max change in measurement, 0.06 inch

FLAMMABILITY: Post-flame dielectric test not required

LIFE CYCLE:

Oven temperature 275 ±2°C (527 ±3.6°F)

Dielectric test, 3000 volts (rms), 60 Hz

DIELECTRIC TEST AFTER IMMERSION: 3000 volts (rms), 60 Hz

ACID RESISTANCE: Dielectric test, 3000 volts (rms), 60 Hz

CONDUCTOR STRAND ADHESION: Not applicable

ABRASION RESISTANCE AFTER IMMERSION: No requirement

HUMIDITY RESISTANCE: No requirement

SURFACE RESISTANCE: 500 megohm-inches (min), initial and final readings.

SMOKE: 290°C (554°F)

COLOR: In accordance with MIL-STD-104, Class 1; white preferred

COLOR STRIPING OR BANDING DURABILITY: 250 cycles (500 strokes) (min), 500 grams weight

IDENTIFICATION DURABILITY: 125 cycles (250 strokes) (min), 500 grams weight

WIRE LENGTH REQUIREMENTS: Schedule A

SUPERSESSON DATA: The wire of this specification sheet, by part number, replaces and supersedes the wire of MS21986(AS) (canceled) in accordance with Table III. MS21986(AS) included wire sizes 28 through 16 only.

TABLE III. SUPERSESSON BY PART NUMBER

Part number MS21986 (AS)	Part number MIL-W-22759/12
MS21986-28-*	M22759/12-28-*
MS21986-26-*	M22759/12-26-*
MS21986-24-*	M22759/12-24-*
MS21986-22-*	M22759/12-22-*
MS21986-20-*	M22759/12-20-*
MS21986-18-*	M22759/12-18-*
MS21986-16-*	M22759/12-16-*